

**Appendix H**

**Supporting Data**

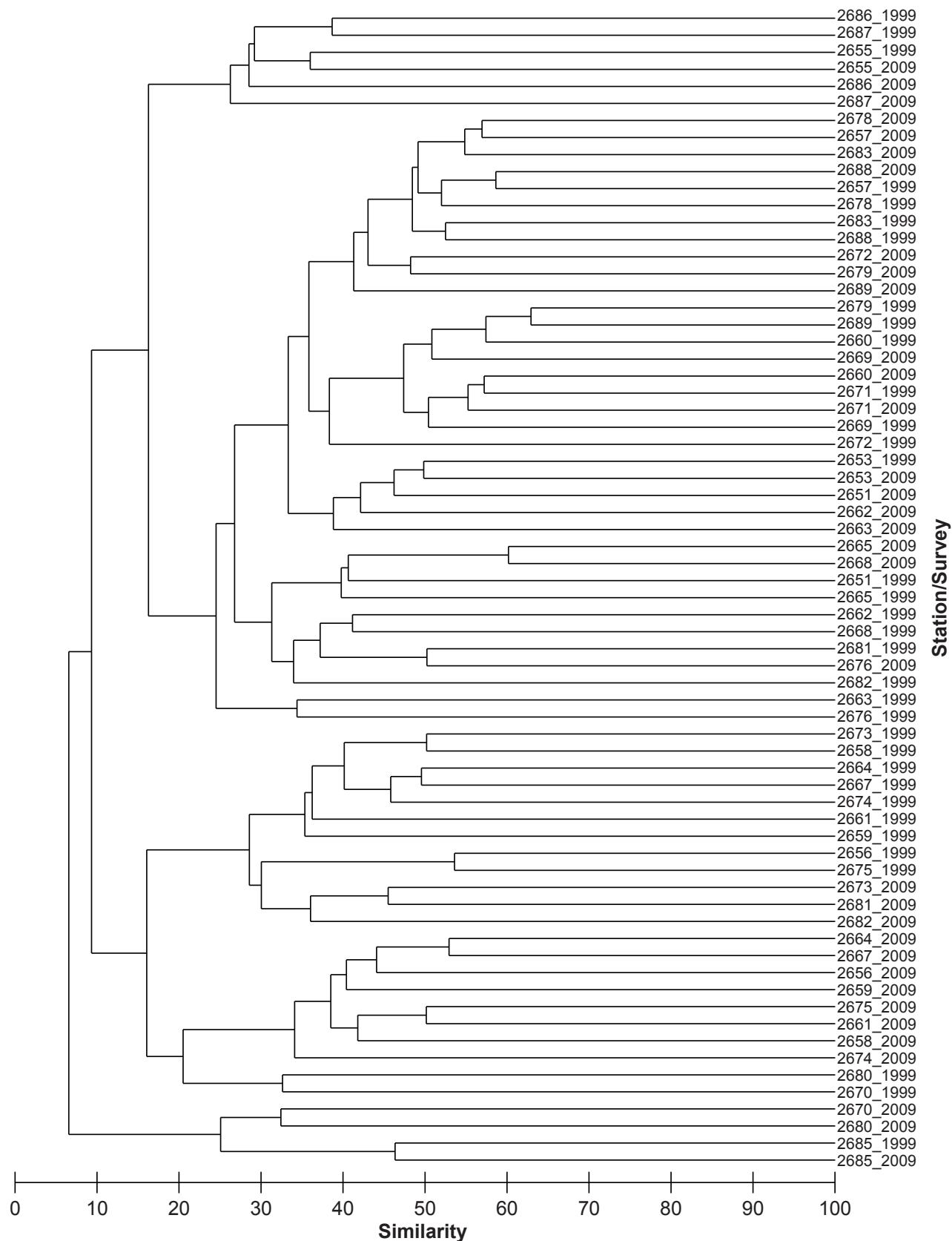
**2009 Regional Stations**

**Macrobenthic Communities**



## Appendix H.1

Dendrogram showing cluster analysis results of the macrofaunal abundance data for the 34 continental shelf depth (<200 m) stations sampled during the 2009 and 1999 regional surveys.



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## Appendix H.2

All taxa composing cluster groups A–G from the 2009 surveys of SBOO benthic stations. Data are expressed as mean abundance per sample (no./0.1 m<sup>2</sup>) and represent the most abundant taxa in each group. Values for the three most abundant species in each cluster group are in bold, (n)=number of station/survey entities per cluster group.

Species/Taxa	Phyla	Cluster Group					
		A (1)	B (6)	C (6)	D (5)	E (3)	F (6)
<i>Acidostoma hancocki</i>	Arthropoda			0.2			
<i>Acoetes pacifica</i>	Annelida					0.2	
<i>Acteocina cerealis</i>	Mollusca				0.2	0.3	0.2
<i>Acteocina culcitella</i>	Mollusca	1.0		0.2			0.9
<i>Acteocina harpa</i>	Mollusca		0.5				
<i>Acteocina sp</i>	Mollusca		0.2				
<i>Actiniaria</i>	Cnidaria	1.0	0.2				
<i>Admete gracilior</i>	Mollusca				0.3		
<i>Adontorhina cyclia</i>	Mollusca			0.2	1.0	4.7	3.8
<i>Aglaja ocelligera</i>	Mollusca		0.2				
<i>Aglaophamus erectans</i>	Annelida			0.2			
<i>Aglaophamus verrilli</i>	Annelida					0.3	1.2
<i>Agnezia septentrionalis</i>	Chordata			6.5			
<i>Alvania rosana</i>	Mollusca						0.8
<i>Amaeana occidentalis</i>	Annelida					0.3	0.6
<i>Amage anops</i>	Annelida					1.0	
<i>Americhelidium shoemakeri</i>	Arthropoda	1.0	1.2	0.2	0.3	0.2	
<i>Americhelidium sp SD4</i>	Arthropoda				0.3		
<i>Ampelisca agassizi</i>	Arthropoda		3.8	1.8	0.3		0.2
<i>Ampelisca brachycladus</i>	Arthropoda			0.2			
<i>Ampelisca brevisimulata</i>	Arthropoda			4.8	0.3	0.7	2.0
<i>Ampelisca careyi</i>	Arthropoda			0.3	5.0	1.2	1.6
<i>Ampelisca cf brevisimulata</i>	Arthropoda						0.9
<i>Ampelisca cristata cristata</i>	Arthropoda	3.0		2.7			
<i>Ampelisca cristata microdentata</i>	Arthropoda			3.2			
<i>Ampelisca hancocki</i>	Arthropoda				1.7	0.2	1.5
<i>Ampelisca indentata</i>	Arthropoda						2.0
<i>Ampelisca pacifica</i>	Arthropoda				1.3	0.7	3.5
<i>Ampelisca pugetica</i>	Arthropoda			1.7			1.5
<i>Ampelisca romigi</i>	Arthropoda						0.2
<i>Ampelisca sp</i>	Arthropoda			0.2		0.2	0.2
<i>Ampelisca unsocalae</i>	Arthropoda				0.8		0.2
<i>Ampelisciphotis podophthalma</i>	Arthropoda						0.1
<i>Ampharete finmarchica</i>	Annelida						0.1
<i>Ampharete labrops</i>	Annelida	2.8	0.5				0.2
<i>Ampharete sp</i>	Annelida						0.2
<i>Ampharetidae</i>	Annelida			0.2	0.6	0.3	0.2
<i>Ampharetidae sp SD1</i>	Annelida					0.3	0.2
<i>Amphichondrius granulatus</i>	Echinodermata						0.7
<i>Amphicteis mucronata</i>	Annelida						0.2
<i>Amphicteis scaphobranchiata</i>	Annelida			0.3		1.3	0.4
<i>Amphideutopus oculatus</i>	Arthropoda			0.7			
<i>Amphiodia digitata</i>	Echinodermata	0.5	2.2	0.4	7.3	1.8	
<i>Amphiodia psara</i>	Echinodermata			0.2			
<i>Amphiodia sp</i>	Echinodermata			1.0	3.7	0.5	8.5

## Appendix H.2 *continued*

Species/Taxa	Phyla	Cluster Group					
		A	B	C	D	E	F
<i>Amphiodia urtica</i>	Echinodermata			2.0		3.2	66.9
<i>Amphioplus</i> sp A	Echinodermata			0.2			
<i>Amphioplus strongyloplax</i>	Echinodermata				1.6		0.2
<i>Amphipholis</i> sp	Echinodermata					0.3	0.2
<i>Amphipholis squamata</i>	Echinodermata			0.2			
<i>Amphissa bicolor</i>	Mollusca				0.4		
<i>Amphissa undata</i>	Mollusca			0.2			0.5
<i>Amphiura arcystata</i>	Echinodermata			0.2			0.5
<i>Amphiuridae</i>	Echinodermata		0.7	5.5	0.6	0.3	1.2
<i>Amygdalum politum</i>	Mollusca					0.3	
<i>Anarthruridae</i>	Arthropoda						0.2
<i>Anchicolurus occidentalis</i>	Arthropoda		2.3				
<i>Ancistrosyllis groenlandica</i>	Annelida				0.4	0.3	
<i>Anobothrus gracilis</i>	Annelida						0.2
<i>Anonyx lilljeborgi</i>	Arthropoda						0.1
<i>Anotomastus gordioides</i>	Annelida			0.3			
<i>Aonides</i> sp SD1	Annelida	3.0					
<i>Aoroides inermis</i>	Arthropoda		0.2				
<i>Aoroides intermedia</i>	Arthropoda		0.3				
<i>Aoroides</i> sp	Arthropoda					0.2	
<i>Aoroides</i> sp A	Arthropoda					1.0	0.3
<i>Aphelochaeta glandaria</i> complex	Annelida				0.2	19.3	1.5
<i>Aphelochaeta monilaris</i>	Annelida		0.2		0.2	1.0	3.3
<i>Aphelochaeta petersenae</i>	Annelida						2.4
<i>Aphelochaeta phillipsi</i>	Annelida	1.0				2.0	1.0
<i>Aphelochaeta</i> sp	Annelida		0.2			1.3	0.2
<i>Aphelochaeta</i> sp LA1	Annelida						0.4
<i>Aphelochaeta</i> sp SD13	Annelida				0.2	1.0	
<i>Aphelochaeta tigrina</i>	Annelida					2.0	0.7
<i>Aphelochaeta williamsae</i>	Annelida				0.2	0.3	0.2
<i>Apionsoma misakianum</i>	Sipuncula	20.0				0.3	
<i>Apoprionospio pygmaea</i>	Annelida		1.5	0.5			
<i>Arachnanthus</i> sp A	Cnidaria						0.1
<i>Araphura brevioria</i>	Arthropoda					0.3	
<i>Araphura cuspirostris</i>	Arthropoda				0.2		
<i>Araphura</i> sp	Arthropoda						0.2
<i>Araphura</i> sp SD1	Arthropoda					0.7	
<i>Argissa hamatipes</i>	Arthropoda		0.2		0.2	0.3	0.2
<i>Aricidea (Acmira) catherinae</i>	Annelida			0.2		3.3	0.5
<i>Aricidea (Acmira) cerrutii</i>	Annelida	1.0				1.0	0.5
<i>Aricidea (Acmira) lopezi</i>	Annelida					2.7	0.3
<i>Aricidea (Acmira) rubra</i>	Annelida					0.7	1.1
<i>Aricidea (Acmira) simplex</i>	Annelida			0.5		0.5	2.1
<i>Aricidea (Allia) antennata</i>	Annelida					1.0	0.2
<i>Aricidea (Allia) hartleyi</i>	Annelida			0.2			0.3
<i>Aricidea (Allia)</i> sp A	Annelida						0.1
<i>Aricidea (Allia)</i> sp SD1	Annelida		0.5			0.8	
<i>Aricidea (Aricidea)</i> sp SD1	Annelida		0.2				
<i>Aricidea (Aricidea)</i> wassi	Annelida			0.3	0.7		0.1

## Appendix H.2 *continued*

Species/Taxa	Phyla	Cluster Group					
		A	B	C	D	E	F
<i>Armandia brevis</i>	Annelida		0.5				
<i>Artacamella hancocki</i>	Annelida			0.7		0.3	0.2
<i>Aruga holmesi</i>	Arthropoda						0.1
<i>Aruga oculata</i>	Arthropoda	2.0		0.2			1.2
Asciidiacea	Chordata			0.5			
Asteroidea	Echinodermata						0.2
<i>Astropecten ornatissimus</i>	Echinodermata				0.3	0.2	
<i>Astropecten verrilli</i>	Echinodermata						0.2
<i>Axinopsida serricata</i>	Mollusca				0.3	15.0	20.8
<i>Axiothella</i> sp	Annelida	0.2	0.8				
<i>Balcis micans</i>	Mollusca	0.2	0.2				
<i>Bathymedon pumilus</i>	Arthropoda			0.2			0.2
Bivalvia	Mollusca	0.3		0.6		0.2	
<i>Brada pluribranchiata</i>	Annelida						0.5
<i>Brada villosa</i>	Annelida						0.1
<i>Branchiostoma californiense</i>	Chordata	6.0					
<i>Brisaster</i> sp	Echinodermata			0.8			
<i>Brissopsis pacifica</i>	Echinodermata			0.8	0.7	0.3	
<i>Bullomorpha</i> sp A	Mollusca						0.1
<i>Byblis millsii</i>	Arthropoda			0.2			1.5
<i>Caecognathia crenulatifrons</i>	Arthropoda			1.5	0.4	1.3	0.2
<i>Caecognathia</i> sp SD1	Arthropoda					1.3	
<i>Caesia fossatus</i>	Mollusca		0.2				
<i>Caesia perpinguis</i>	Mollusca		0.2	0.5			
<i>Callianax baetica</i>	Mollusca	5.0	0.2	0.5			
<i>Campylaspis canaliculata</i>	Arthropoda						0.2
<i>Campylaspis hartae</i>	Arthropoda					1.0	
<i>Campylaspis rubromaculata</i>	Arthropoda			0.2			
<i>Capitella teleta</i>	Annelida						0.1
<i>Caprella mendax</i>	Arthropoda			0.3			0.3
<i>Cardiomya pectinata</i>	Mollusca						0.1
<i>Carinoma mutabilis</i>	Nemertea	3.7	1.5			0.2	0.1
<i>Caulieriella</i> sp	Annelida			0.2			
<i>Cerapus tubularis</i> complex	Arthropoda	0.5	0.2				
<i>Cerebratulus californiensis</i>	Nemertea			0.2			0.1
Ceriantharia	Cnidaria	1.0			0.2		
<i>Chaetoderma nanulum</i>	Mollusca			0.2			
<i>Chaetoderma pacificum</i>	Mollusca					1.2	0.2
<i>Chaetozone corona</i>	Annelida			0.2			
<i>Chaetozone hartmanae</i>	Annelida				0.3	2.2	2.6
<i>Chaetozone</i> sp	Annelida			0.3		15.3	
<i>Chaetozone</i> sp SD1	Annelida	0.2					
<i>Chaetozone</i> sp SD2	Annelida			0.2			
<i>Chaetozone</i> sp SD3	Annelida					0.7	
<i>Chaetozone</i> sp SD5	Annelida			1.3	0.2	12.0	
<i>Chaetozone spinosa</i>	Annelida						0.1
<i>Chauliopleona dentata</i>	Arthropoda					0.7	0.5
<i>Chiridota</i> sp	Echinodermata				1.0	0.5	1.2
<i>Chloeia pinnata</i>	Annelida					1.0	0.1

## Appendix H.2 *continued*

Species/Taxa	Phyla	Cluster Group					
		A	B	C	D	E	F
<i>Chone albocincta</i>	Annelida		0.2				
<i>Chone ecaudata</i>	Annelida			0.2			0.1
<i>Chone eiffelturris</i>	Annelida		0.3				
<i>Chone paramollis</i>	Annelida						0.1
<i>Chone</i> sp	Annelida		0.3	1.2			
<i>Chone</i> sp B	Annelida		0.2		0.3		
<i>Chone trilineata</i>	Annelida				2.7		0.7
<i>Chone veleronis</i>	Annelida		1.2				0.1
Cirratulidae	Annelida		0.2	0.2		0.2	0.2
<i>Cirratulus</i> sp	Annelida	1.0				1.0	
<i>Cirriformia</i> sp	Annelida		0.3				
<i>Cirrophorus branchiatus</i>	Annelida					0.2	
<i>Clymenella</i> sp A	Annelida		0.2				
<i>Clymenura gracilis</i>	Annelida					0.7	1.9
<i>Cnemidocarpa rhizopus</i>	Chordata	4.0	0.2				
<i>Compressidens stearnsii</i>	Mollusca			2.8	1.0	0.7	0.4
<i>Compsomyax subdiaphana</i>	Mollusca		0.2				0.2
<i>Cooperella subdiaphana</i>	Mollusca	2.3	3.0				
Copepoda	Arthropoda			0.6			
<i>Corymorpha bigelowi</i>	Cnidaria						0.1
<i>Cossura candida</i>	Annelida					1.8	0.9
<i>Cossura</i> sp	Annelida		0.2			0.5	
<i>Cossura</i> sp A	Annelida						0.1
<i>Crangon alba</i>	Arthropoda		0.2				
Cumacea	Arthropoda	0.2	0.2				
<i>Cuspidaria parapodema</i>	Mollusca					0.8	
<i>Cyclaspis nubila</i>	Arthropoda	0.7	0.3				
<i>Cyclocardia ventricosa</i>	Mollusca		0.3	0.2		0.2	
<i>Cylichna diegensis</i>	Mollusca			2.7	0.3	0.2	2.7
<i>Decamastus gracilis</i>	Annelida				2.0	1.8	0.1
<i>Deflexilodes norvegicus</i>	Arthropoda					0.8	0.4
<i>Dendraster terminalis</i>	Echinodermata	1.7					
Dendrochirotida	Echinodermata					0.2	
<i>Dentalium neohexagonum</i>	Mollusca	0.5					
<i>Dentalium vallicolens</i>	Mollusca		0.2				
<i>Diastylis californica</i>	Arthropoda						0.1
<i>Diastylis crenellata</i>	Arthropoda					0.2	0.2
<i>Diastylis santamariensis</i>	Arthropoda		0.2				
<i>Diastylopsis tenuis</i>	Arthropoda	11.7	0.5				
<i>Diopatra</i> sp	Annelida			4.8			0.5
<i>Diopatra splendidissima</i>	Annelida		0.5				
<i>Diopatra tridentata</i>	Annelida			0.5			0.1
<i>Dipolydora socialis</i>	Annelida		0.5	0.5		0.5	1.1
<i>Dorvillea (Schistomerigos)</i> sp	Annelida	7.0					
<i>Dougaloplus amphacanthus</i>	Echinodermata		0.3			1.7	
<i>Dougaloplus</i> sp	Echinodermata				0.3		
<i>Dougaloplus</i> sp A	Echinodermata				1.0		0.5
<i>Drilonereis falcata</i>	Annelida		0.2		0.3	0.2	0.2
<i>Drilonereis filum</i>	Annelida					0.2	

## Appendix H.2 *continued*

Species/Taxa	Phyla	Cluster Group					
		A	B	C	D	E	F
<i>Drilonereis</i> sp	Annelida			0.3		0.3	0.8
Echinoidea	Echinodermata		0.5				0.1
<i>Eclysippe trilobata</i>	Annelida				1.6		0.3
<i>Edotia sublittoralis</i>	Arthropoda	3.0	0.7	0.3			0.7
<i>Edwardsia profunda</i>	Cnidaria				0.2		
<i>Edwardsia</i> sp G	Cnidaria			1.0			
Edwardsiidae	Cnidaria					0.3	
<i>Elaeocyma empyrosia</i>	Mollusca						0.1
<i>Ennucula tenuis</i>	Mollusca				2.4		1.7
Enopla	Nemertea	3.0	0.2	0.2			
<i>Ensis myrae</i>	Mollusca			0.2			
Enteropneusta	Chordata			0.2			0.1
<i>Epitonium (Nitidiscala)</i> sp	Mollusca		0.2				
<i>Epitonium bellastriatum</i>	Mollusca			0.2			
<i>Eranno bicirrata</i>	Annelida						0.1
<i>Eranno lagunae</i>	Annelida					0.3	
<i>Eranno</i> sp	Annelida						0.2
<i>Euchone arenae</i>	Annelida			0.3		0.3	0.1
<i>Euchone hancocki</i>	Annelida					3.3	
<i>Euchone incolor</i>	Annelida					0.7	0.5
<i>Euchone</i> sp	Annelida					0.3	
<i>Euchone</i> sp A	Annelida					0.7	0.2
Euclymeninae	Annelida			1.5		1.2	0.6
Euclymeninae sp A	Annelida				11.2	0.5	3.5
<i>Eulalia californiensis</i>	Annelida						0.2
<i>Eulalia levicornuta</i> complex	Annelida	1.0		0.2			0.2
Eulimidae	Mollusca			0.2			
Eulimidae sp SD1	Mollusca				0.4		
<i>Eunice americana</i>	Annelida			0.3		0.2	0.1
<i>Euphilomedes carcharodonta</i>	Arthropoda		2.2	5.0		0.7	1.2
<i>Euphilomedes producta</i>	Arthropoda					0.7	1.4
<i>Eurydice caudata</i>	Arthropoda	7.0		1.3			
Eusyllinae	Annelida	1.0					
<i>Eusyllis</i> sp SD2	Annelida	1.0		1.5			
<i>Eusyllis transecta</i>	Annelida		0.3	0.2			
<i>Exogone acutipalpa</i>	Annelida					0.3	
<i>Exogone lourei</i>	Annelida			1.7	2.0		3.7
<i>Exogone molesta</i>	Annelida			2.0			
<i>Eyakia robusta</i>	Arthropoda					0.3	0.5
<i>Falcidens longus</i>	Mollusca						0.3
<i>Fauveliopsis glabra</i>	Annelida				1.2		
<i>Fauveliopsis</i> sp SD1	Annelida				0.4	21.7	0.2
<i>Foxiphalus cognatus</i>	Arthropoda					0.3	
<i>Foxiphalus golfensis</i>	Arthropoda			1.0			
<i>Foxiphalus obtusidens</i>	Arthropoda		0.2	0.5		1.7	
<i>Foxiphalus similis</i>	Arthropoda						0.7
<i>Gadila aberrans</i>	Mollusca		0.3	3.2			1.2
<i>Gadila tolmiei</i>	Mollusca				2.8		0.2
<i>Gammaropsis martesia</i>	Arthropoda		0.2				

## Appendix H.2 *continued*

Species/Taxa	Phyla	Cluster Group					
		A	B	C	D	E	F
<i>Gammaropsis ociosa</i>	Arthropoda	0.2					
<i>Gammaropsis thompsoni</i>	Arthropoda	0.7					
<i>Gibberosus myersi</i>	Arthropoda	7.2	0.2				
<i>Glossaulax reclusianus</i>	Mollusca					0.1	
<i>Glycera americana</i>	Annelida	0.2	0.2		0.3	0.3	0.1
<i>Glycera macrobranchia</i>	Annelida	1.0	0.2				
<i>Glycera nana</i>	Annelida			0.6	1.7	1.8	1.9
<i>Glycera oxycephala</i>	Annelida	0.7	2.0		0.7		
<i>Glycinde armigera</i>	Annelida		2.7	1.2	1.0	0.3	0.8
<i>Glyphocuma</i> sp A	Arthropoda				0.3		
Gnathiidae	Arthropoda				0.3		
<i>Goniada brunnea</i>	Annelida					0.5	0.1
<i>Goniada littorea</i>	Annelida		4.2				
<i>Goniada maculata</i>	Annelida			1.0		1.7	0.7
<i>Gymnonereis crosslandi</i>	Annelida						0.1
<i>Halicoides synopiae</i>	Arthropoda	0.2					0.7
<i>Haliophasma geminatum</i>	Arthropoda			0.5		0.3	
<i>Halistylus pupoideus</i>	Mollusca	1.0					
<i>Halosydna johnsoni</i>	Annelida			0.2			
<i>Hartmanodes hartmanae</i>	Arthropoda		0.2	0.2		0.7	0.2
<i>Hemilamprops californicus</i>	Arthropoda			1.7			0.2
<i>Hesionura coineaui difficilis</i>	Annelida	30.0		0.2			
<i>Heteronemertea</i> sp SD2	Nemertea				1.0		
<i>Heterophoxus ellisi</i>	Arthropoda				0.4		1.3
<i>Heterophoxus oculatus</i>	Arthropoda					0.2	0.9
<i>Heterophoxus</i> sp	Arthropoda					0.2	
<i>Heterospio catalinensis</i>	Annelida			0.2		0.3	
<i>Hinea insculpta</i>	Mollusca				1.3	0.2	
<i>Hippomedon</i> sp A	Arthropoda						0.2
<i>Hoploneurtea</i> sp A	Nemertea		0.3			0.3	
<i>Hoploneurtea</i> sp SD3	Nemertea						0.1
<i>Hourstonius vilordes</i>	Arthropoda	1.0					
<i>Huxleyia munita</i>	Mollusca				3.7		0.1
<i>Hyalinoecia juvenalis</i>	Annelida						0.1
<i>Jasmineira</i> sp B	Annelida		0.2		0.3	0.3	
<i>Kurtziella plumbea</i>	Mollusca		0.3				
<i>Kurtzina beta</i>	Mollusca						0.6
<i>Lamprops quadruplicatus</i>	Arthropoda		2.5				
<i>Lanassa venusta venusta</i>	Annelida			2.5		0.7	0.2
<i>Laonice cirrata</i>	Annelida			1.2		0.5	0.4
<i>Laonice nuchala</i>	Annelida				0.3	0.5	
<i>Laticorophium baconi</i>	Arthropoda		0.2				
<i>Leitoscoloplos pugettensis</i>	Annelida	0.3	0.3				
<i>Leitoscoloplos</i> sp A	Annelida				1.2		
<i>Lepidasthenia longicirrata</i>	Annelida					0.2	
<i>Leptochelia dubia</i>	Arthropoda			0.3		2.7	0.7
<i>Leptopecten latiauratus</i>	Mollusca	1.3	0.7				1.2
Leptoplanidae	Platyhelminthes					0.3	
<i>Leptostylyis abditis</i>	Arthropoda						0.2

## Appendix H.2 *continued*

Species/Taxa	Phyla	Cluster Group					
		A	B	C	D	E	F
<i>Leptosynapta</i> sp	Echinodermata		0.2	0.2			0.2
<i>Leuroleberis sharpei</i>	Arthropoda			0.3			
<i>Levinsenia gracilis</i>	Annelida					0.7	0.5
<i>Levinsenia</i> sp B	Annelida					0.8	0.2
<i>Limatula saturna</i>	Mollusca						0.1
<i>Limifossor fratula</i>	Mollusca				1.0		
<i>Limnactiniidae</i> sp A	Cnidaria					0.2	
<i>Lineidae</i>	Nemertea	0.8		1.0	0.2	0.3	0.2
<i>Lineus bilineatus</i>	Nemertea						0.2
<i>Lirobarleeia kelseyi</i>	Mollusca			0.2			
<i>Lirobittium larum</i>	Mollusca			0.3		1.0	
<i>Listriella albina</i>	Arthropoda						0.2
<i>Listriella diffusa</i>	Arthropoda	1.0					
<i>Listriella eriopisa</i>	Arthropoda						0.1
<i>Listriella goleta</i>	Arthropoda						0.3
<i>Listriella melanica</i>	Arthropoda		0.2				
<i>Listriolobus pelodes</i>	Echiura						0.1
<i>Lucinisca nuttalli</i>	Mollusca			0.3			
<i>Lucinoma annulatum</i>	Mollusca					1.3	0.7
<i>Lumbrineridae</i> group III	Annelida		0.2				0.2
<i>Lumbrinerides platypygos</i>	Annelida	40.0		1.0			0.1
<i>Lumbrineris cruzensis</i>	Annelida				0.6		2.5
<i>Lumbrineris latreilli</i>	Annelida			1.8			3.3
<i>Lumbrineris lingulata</i>	Annelida	1.0	0.2	1.2			
<i>Lumbrineris</i> sp group I	Annelida		0.2			0.3	2.5
<i>Lumbrineris</i> sp group II	Annelida		0.2				0.2
<i>Lyonsia californica</i>	Mollusca			2.0			0.1
<i>Lyonsiidae</i>	Mollusca		0.3				0.1
<i>Lysippe</i> sp A	Annelida			0.2		1.3	0.4
<i>Lysippe</i> sp B	Annelida					0.7	1.2
<i>Macoma carlottensis</i>	Mollusca				9.6		1.0
<i>Macoma</i> sp	Mollusca		0.5				2.0
<i>Macoma yoldiformis</i>	Mollusca			2.5			0.1
<i>Macrochaeta</i> sp A	Annelida	2.0					
<i>Mactridae</i>	Mollusca		0.3				
<i>Mactromeris hemphilli</i>	Mollusca			8.2			
<i>Magelona sacculata</i>	Annelida					0.2	
<i>Magelona</i> sp B	Annelida					1.0	0.8
<i>Maldane sarsi</i>	Annelida				4.8		4.2
<i>Maldanidae</i>	Annelida		0.2	2.5	5.6	0.3	1.2
<i>Maldaninae</i>	Annelida		0.2	0.2			1.2
<i>Malmgreniella macginitieei</i>	Annelida			0.5			
<i>Malmgreniella sanpedroensis</i>	Annelida					0.7	0.3
<i>Malmgreniella scriptoria</i>	Annelida				0.2		0.1
<i>Malmgreniella</i> sp A	Annelida				0.5	0.2	
<i>Mayerella banksia</i>	Arthropoda					2.0	
<i>Mediomastus acutus</i>	Annelida		0.5	0.2			
<i>Mediomastus</i> sp	Annelida	1.0	3.7	8.5	0.6	5.3	5.7
<i>Megalomma pigmentum</i>	Annelida		0.3	0.7			2.2

## Appendix H.2 *continued*

Species/Taxa	Phyla	Cluster Group					
		A	B	C	D	E	F
<i>Megalomma splendida</i>	Annelida						0.1
<i>Megaluropidae</i> sp A	Arthropoda			0.2			
<i>Megasurcula carpenteriana</i>	Mollusca						0.1
<i>Melanella rosa</i>	Mollusca		0.2				
<i>Melinna heterodonta</i>	Annelida					0.7	3.0
<i>Melinna oculata</i>	Annelida			1.0			
<i>Melitidae</i>	Arthropoda	1.0					
<i>Mesochaetopterus</i> sp	Annelida						0.2
<i>Mesolamprops bispinosus</i>	Arthropoda			0.3			0.4
<i>Metaphoxus frequens</i>	Arthropoda						0.2
<i>Metasychis disparidentatus</i>	Annelida		0.2	0.2			0.2
<i>Metatiron tropakis</i>	Arthropoda					0.3	
<i>Metharpinia jonesi</i>	Arthropoda		0.2				
<i>Micranellum crebricinctum</i>	Mollusca			0.2		17.3	
<i>Microphthalmus</i> sp	Annelida	1.0					
<i>Micrura alaskensis</i>	Nemertea			0.3			0.1
<i>Modiolus</i> sp	Mollusca		1.3				
<i>Molgula pugetensis</i>	Chordata			1.5			0.2
<i>Molgula</i> sp	Chordata			0.8			0.2
<i>Monoculodes emarginatus</i>	Arthropoda					1.3	0.2
<i>Monticellina cryptica</i>	Annelida		7.3	0.3		2.0	1.5
<i>Monticellina siblina</i>	Annelida		0.2	15.8		8.0	4.0
<i>Monticellina</i> sp	Annelida		0.7			1.0	0.7
<i>Monticellina tessellata</i>	Annelida			0.2			0.7
<i>Mooreonuphis exigua</i>	Annelida					0.3	
<i>Mooreonuphis nebulosa</i>	Annelida			12.8			0.8
<i>Mooreonuphis segmentispadix</i>	Annelida					6.0	
<i>Mooreonuphis</i> sp	Annelida	4.0		7.0		0.7	
<i>Mooreonuphis</i> sp SD1	Annelida			9.7		0.3	
<i>Mooresamytha bioculata</i>	Annelida			0.3			
<i>Myriochele gracilis</i>	Annelida					0.3	0.7
<i>Myriochele striolata</i>	Annelida			0.5		2.7	
<i>Myriowenia californiensis</i>	Annelida						0.2
<i>Naineris uncinata</i>	Annelida					1.3	
<i>Neaeromya rugifera</i>	Mollusca						0.1
<i>Neastacilla californica</i>	Arthropoda			0.2			
<i>Nellobia eusoma</i>	Echiura				0.2		
<i>Nematoda</i>	Nematoda	23.0	0.2	0.8		0.3	
<i>Neosabellaria cementarium</i>	Annelida			0.7			
<i>Nephasoma diaphanes</i>	Sipuncula					0.3	0.1
<i>Nephtys caecoides</i>	Annelida		0.3	0.2		0.3	0.3
<i>Nephtys cornuta</i>	Annelida				0.2		0.2
<i>Nephtys ferruginea</i>	Annelida					0.7	1.0
<i>Nephtys</i> sp SD2	Annelida			0.2			
<i>Nereiphylla</i> sp 2	Annelida			0.2		0.3	
<i>Nereis latescens</i>	Annelida		0.8				
<i>Nereis</i> sp A	Annelida		0.2	0.8			0.3
<i>Nicippe tumida</i>	Arthropoda						0.5
<i>Ninoe tridentata</i>	Annelida					0.3	

## Appendix H.2 *continued*

Species/Taxa	Phyla	Cluster Group					
		A	B	C	D	E	F
<i>Nothria occidentalis</i>	Annelida						0.2
<i>Notocirrus californiensis</i>	Annelida					0.3	
<i>Notomastus latericeus</i>	Annelida		1.3				
<i>Notomastus</i> sp	Annelida		0.2	0.2			
<i>Notomastus</i> sp A	Annelida		0.3	0.4	1.7	1.3	0.4
<i>Notoproctus pacificus</i>	Annelida						1.0
<i>Nuculana conceptionis</i>	Mollusca			11.0			
<i>Nuculana hamata</i>	Mollusca						0.2
<i>Nuculana leonina</i>	Mollusca			0.4			
<i>Nuculana penderi</i>	Mollusca	0.7					
<i>Nuculana</i> sp A	Mollusca					2.3	2.1
<i>Nuculana taphria</i>	Mollusca	0.2	4.2				0.2
<i>Odontosyllis phosphorea</i>	Annelida		0.2				
<i>Odostomia</i> sp	Mollusca	0.3					0.2
<i>Oerstedia dorsalis</i>	Nemertea				1.0		
<i>Okenia</i> sp A	Mollusca		0.2				
Oligochaeta	Annelida	15.0					
<i>Onuphidae</i>	Annelida		3.8	0.7		0.2	
<i>Onuphis elegans</i>	Annelida		0.2				
<i>Onuphis eremita parva</i>	Annelida			0.2			
<i>Onuphis iridescent</i>	Annelida				0.4	0.5	
<i>Onuphis</i> sp	Annelida		1.8				
<i>Onuphis</i> sp A	Annelida		7.3	3.0		0.7	0.2
<i>Ophelia pulchella</i>	Annelida	4.0		0.2			
<i>Ophelina acuminata</i>	Annelida				0.2		
<i>Ophelina</i> sp SD1	Annelida					0.7	
<i>Ophiodermella inermis</i>	Mollusca		0.8				0.1
<i>Ophiura luetkenii</i>	Echinodermata		0.2			0.3	0.2
<i>Ophiuroconis bispinosa</i>	Echinodermata			5.3			1.7
Ophiuroidea	Echinodermata				0.4		
<i>Opisthodonta</i> sp SD1	Annelida	2.0					
<i>Orchomenella pacifica</i>	Arthropoda					1.7	
<i>Owenia collaris</i>	Annelida		118.5				0.1
<i>Oxyurostylis pacifica</i>	Arthropoda			0.2			
<i>Pacifacanthomysis nephrophthalma</i>	Arthropoda						0.1
Palaeonemertea	Nemertea			0.2			0.1
<i>Pandora bilirata</i>	Mollusca			0.2	0.2	0.2	0.4
<i>Paradiopatra parva</i>	Annelida		0.2			0.3	1.7
<i>Parandalia fauveti</i>	Annelida						0.1
<i>Paranemertes californica</i>	Nemertea		0.3				
Paraonidae	Annelida		0.2				0.2
<i>Parapriionospio alata</i>	Annelida			0.3	0.8	0.7	0.5
<i>Pardaliscella symmetrica</i>	Arthropoda						0.3
<i>Parougia caeca</i>	Annelida		0.2				
<i>Parvilucina tenuisculpta</i>	Mollusca		0.3	0.3	0.6	5.0	4.8
<i>Pectinaria californiensis</i>	Annelida		0.3		0.2		0.5
<i>Pentamera populifera</i>	Echinodermata						0.2
<i>Pentamera pseudopopulifera</i>	Echinodermata			0.2			0.1
<i>Pentamera</i> sp	Echinodermata			0.7			

## Appendix H.2 *continued*

Species/Taxa	Phyla	Cluster Group					
		A	B	C	D	E	F
<i>Periploma discus</i>	Mollusca			0.3			
<i>Petaloclymene pacifica</i>	Annelida			0.7	0.2		2.7
<i>Petaloproctus neoborealis</i>	Annelida						0.2
<i>Phascolion</i> sp A	Sipuncula	0.3	0.2			0.7	1.2
<i>Pherusa negligens</i>	Annelida					0.2	
<i>Pherusa neopapillata</i>	Annelida			0.8		0.2	0.2
<i>Pherusa</i> sp SD2	Annelida				0.4		
<i>Philine auriformis</i>	Mollusca			0.2			
<i>Phisidia sanctaemariae</i>	Annelida			0.3		0.7	1.2
<i>Phloeo glabra</i>	Annelida					1.3	0.3
<i>Pholoides asperus</i>	Annelida						0.1
<i>Phoronis</i> sp	Annelida						0.5
<i>Phoronis</i> sp SD1	Annelida	0.3			0.3		
<i>Phoronopsis</i> sp	Annelida	0.5					
<i>Photis bifurcata</i>	Arthropoda					0.3	0.1
<i>Photis brevipes</i>	Arthropoda	3.5	0.2				
<i>Photis californica</i>	Arthropoda						0.5
<i>Photis lacia</i>	Arthropoda					5.0	0.2
<i>Photis macinerneyi</i>	Arthropoda	6.7					
<i>Photis</i> sp	Arthropoda	1.3	0.2			0.7	0.2
<i>Photis</i> sp C	Arthropoda						0.2
<i>Photis</i> sp OC1	Arthropoda	0.2	0.7				
<i>Phoxocephalidae</i>	Arthropoda		0.2			0.2	
<i>Phyllochaetopterus limiculus</i>	Annelida				0.2	1.5	
<i>Phyllodoce groenlandica</i>	Annelida			0.8		0.7	0.2
<i>Phyllodoce hartmanae</i>	Annelida	0.3	1.0			0.2	0.4
<i>Phyllodoce longipes</i>	Annelida			0.3			0.2
<i>Phyllodoce pettiboneae</i>	Annelida			0.2			0.2
<i>Pilargis berkeleyae</i>	Annelida						0.1
<i>Pinnixa longipes</i>	Arthropoda		0.3				
<i>Pinnixa occidentalis</i> complex	Arthropoda				0.4		1.2
<i>Pinnixa</i> sp	Arthropoda			0.3			0.2
<i>Pionosyllis</i> sp SD2	Annelida	2.0		0.5			
<i>Piomis</i> sp A	Annelida					0.2	0.2
<i>Pistone</i> sp	Annelida	38.0					
<i>Pista estevanica</i>	Annelida			0.3		1.0	0.8
<i>Pista moorei</i>	Annelida					0.2	
<i>Pista</i> sp	Annelida			0.3		0.7	
<i>Pista wui</i>	Annelida			0.3		0.7	0.2
<i>Plakosyllis</i> sp	Annelida	1.0					
<i>Platynereis bicanaliculata</i>	Annelida		0.3	0.2			
<i>Podarkeopsis glabrus</i>	Annelida						0.5
<i>Podarkeopsis perkinsi</i>	Annelida				0.2		
<i>Poecilochaetus johnsoni</i>	Annelida			0.2			
<i>Polycirrus californicus</i>	Annelida					0.3	
<i>Polycirrus</i> sp	Annelida			1.5	0.2	0.7	1.0
<i>Polycirrus</i> sp A	Annelida			3.3		3.7	1.5
<i>Polycirrus</i> sp I	Annelida			0.5		1.5	2.1
<i>Polycirrus</i> sp OC1	Annelida						0.1

## Appendix H.2 *continued*

Species/Taxa	Phyla	Cluster Group					
		A	B	C	D	E	F
<i>Polycirrus</i> sp SD1	Annelida						0.2
<i>Polycirrus</i> sp SD3	Annelida					0.3	0.1
<i>Polydora cirrosa</i>	Annelida		12.2	0.2			
<i>Polyschides quadrifissatus</i>	Mollusca		0.2	1.5		0.3	0.4
<i>Praxillella pacifica</i>	Annelida			2.5		2.2	1.8
<i>Prionospio (Minuspio) lighti</i>	Annelida			0.2	0.2	0.3	0.5
<i>Prionospio (Prionospio) dubia</i>	Annelida					2.0	1.7
<i>Prionospio (Prionospio) ehlersi</i>	Annelida				0.6		
<i>Prionospio (Prionospio) jubata</i>	Annelida			0.7	0.2	3.3	1.2
<i>Procampylaspis caenosa</i>	Arthropoda					0.7	0.2
<i>Proclea</i> sp A	Annelida						1.8
<i>Proneomysis wailesi</i>	Arthropoda	1.0					
<i>Protodorvillea gracilis</i>	Annelida	19.0		0.8		0.3	
<i>Protomedeia articulata</i> complex	Arthropoda					0.3	0.3
<i>Protomystides</i> sp SD2	Annelida						0.1
<i>Prototrygaeus jordanae</i>	Arthropoda			0.2			
<i>Pseudopotamilla</i> sp	Annelida		0.3				
<i>Questa caudicirra</i>	Annelida	4.0					
<i>Rhabdus rectius</i>	Mollusca			0.4		0.5	
<i>Rhachotropis</i> sp A	Arthropoda						0.6
<i>Rhepoxyinius abronius</i>	Arthropoda		8.5	0.7			
<i>Rhepoxyinius bicuspidatus</i>	Arthropoda					1.0	3.1
<i>Rhepoxyinius fatigans</i>	Arthropoda			0.2			
<i>Rhepoxyinius heterocuspis</i>	Arthropoda			1.3			
<i>Rhepoxyinius menziesi</i>	Arthropoda		1.8	1.5			0.2
<i>Rhepoxyinius</i> sp A	Arthropoda		0.2				
<i>Rhepoxyinius stenodes</i>	Arthropoda		0.7	1.0			
<i>Rhepoxyinius variatus</i>	Arthropoda			1.5			
<i>Rhodine bitorquata</i>	Annelida					0.5	1.1
<i>Rhynchospio arenincola</i>	Annelida	0.3					
<i>Rictaxis punctocaelatus</i>	Mollusca			1.7		1.0	0.2
<i>Rochefortia coani</i>	Mollusca						0.1
<i>Rochefortia tumida</i>	Mollusca		0.2	1.2			0.2
<i>Sabellaria gracilis</i>	Annelida		0.3				0.1
<i>Sabellidae</i>	Annelida				0.3		
<i>Sabellides manriquei</i>	Annelida			0.2			0.1
<i>Saccoglossus</i> sp	Chordata			0.2			
<i>Samytha californiensis</i>	Annelida			0.2	0.2		0.3
<i>Saxicavella pacifica</i>	Mollusca				2.4		
<i>Scalibregma californicum</i>	Annelida						0.5
Scaphopoda	Mollusca	1.0		0.2	0.2	0.3	0.2
<i>Scaphopoda</i> sp SD1	Mollusca				1.8		
<i>Schistocomus</i> sp	Annelida		0.2				
<i>Schistocomus</i> sp A	Annelida		0.3				
<i>Scolanthus</i> sp A	Cnidaria						0.1
<i>Scoletoma tetraura</i> complex	Annelida		7.5	0.5	0.6		1.7
<i>Scoloplos acmeceps</i>	Annelida					0.3	0.4
<i>Scoloplos armiger</i> complex	Annelida		0.8	1.0		0.7	0.3
<i>Scoloura phillipsi</i>	Arthropoda					0.7	1.3

## Appendix H.2 *continued*

Species/Taxa	Phyla	Cluster Group					
		A	B	C	D	E	F
<i>Sigalion spinosus</i>	Annelida		0.8	2.2			0.3
<i>Sigalionidae</i>	Annelida	1.0					
<i>Sige sp A</i>	Annelida		0.2	0.3			0.3
<i>Siliqua lucida</i>	Mollusca		3.5				
<i>Simomactra falcata</i>	Mollusca	1.0	0.3				
<i>Siphonolabrum californiensis</i>	Arthropoda					0.3	0.2
<i>Sipuncula</i>	Sipuncula	1.0					
<i>Skenea coronadoensis</i>	Mollusca		0.8				
<i>Solamen columbianum</i>	Mollusca			0.3	0.4		0.2
<i>Solariella peramabilis</i>	Mollusca	1.0				1.0	
<i>Solemya pervernica</i>	Mollusca						0.2
<i>Solen sicarius</i>	Mollusca			0.3			
<i>Spatangoida</i>	Echinodermata				0.2		
<i>Spatangus californicus</i>	Echinodermata					0.3	
<i>Sphaeromatidae</i>	Arthropoda					0.3	
<i>Sphaerosyllis californiensis</i>	Annelida	8.0					
<i>Spio filicornis</i>	Annelida			0.2			0.3
<i>Spio maculata</i>	Annelida	60.0		0.7			0.1
<i>Spiochaetopterus costarum</i> complex	Annelida		0.5	0.2		1.0	0.2
<i>Spiophanes berkeleyorum</i>	Annelida		0.2	5.2		0.8	6.8
<i>Spiophanes duplex</i>	Annelida		8.8	4.0		0.3	2.0
<i>Spiophanes fimbriata</i>	Annelida				0.4	0.2	
<i>Spiophanes kimballi</i>	Annelida				1.0	4.2	0.1
<i>Spiophanes norrisi</i>	Annelida	2.0	11.5	50.5		0.3	0.2
<i>Stenothoe frecanda</i>	Arthropoda						0.5
<i>Stenothoides bicoma</i>	Arthropoda						0.5
<i>Stereobalanus</i> sp	Chordata			0.2		0.2	3.2
<i>Sternaspis fossor</i>	Annelida					2.5	2.5
<i>Sthenelais tertia</i> glabra	Annelida			0.5	0.3	1.5	0.5
<i>Sthenelais verruculosa</i>	Annelida			0.2			
<i>Sthenelanella uniformis</i>	Annelida					0.3	0.7
<i>Streblosoma crassibranchia</i>	Annelida						0.4
<i>Streblosoma</i> sp	Annelida			1.7		0.2	0.2
<i>Streblosoma</i> sp B	Annelida			2.5			0.2
<i>Streblosoma</i> sp SF1	Annelida			1.2			
<i>Stylochoplana</i> sp HYP2	Platyhelminthes						0.1
<i>Syllides mikeli</i>	Annelida					0.7	
<i>Synidotea magnifica</i>	Arthropoda		0.2				
<i>Tanaella propinquus</i>	Arthropoda					0.5	0.2
<i>Tanaidacea</i>	Arthropoda					0.3	
<i>Tanaopsis cadieni</i>	Arthropoda					1.0	0.2
<i>Tellina cadieni</i>	Mollusca					0.5	0.2
<i>Tellina carpenteri</i>	Mollusca				0.4	19.7	8.7
<i>Tellina modesta</i>	Mollusca	3.2	4.0				0.6
<i>Tellina nuculoides</i>	Mollusca		0.2				
<i>Tellinidae</i>	Mollusca			0.3			
<i>Tenonia priops</i>	Annelida			0.2			
<i>Terebellidae</i>	Annelida						0.2
<i>Terebellides californica</i>	Annelida					11.5	2.6

## Appendix H.2 *continued*

Species/Taxa	Phyla	Cluster Group					
		A	B	C	D	E	F
<i>Terebellides reishi</i>	Annelida						0.1
<i>Terebellides</i> sp	Annelida					0.2	0.2
<i>Terebellides</i> sp Type D	Annelida						0.1
<i>Tetrastemma nigrifrons</i>	Nemertea	0.2					
<i>Thorlaksonius platypus</i>	Arthropoda	0.2					
<i>Thracia</i> sp	Mollusca						0.1
<i>Thracia trapezoides</i>	Mollusca						0.2
Thracidae	Mollusca		0.2				
<i>Thyasira flexuosa</i>	Mollusca			0.2		0.3	0.9
Thysiridae sp LA1	Mollusca					0.3	
<i>Thysanocardia nigra</i>	Sipuncula	0.5	1.0				0.3
<i>Tiburonella viscana</i>	Arthropoda	4.0					
<i>Tiron biocellata</i>	Arthropoda		0.3	0.5			
<i>Travisia brevis</i>	Annelida						3.5
<i>Travisia pupa</i>	Annelida			0.4		0.2	
<i>Trigonulina novemcostatus</i>	Mollusca					0.7	
<i>Tritella pilimana</i>	Arthropoda	0.8					0.4
<i>Trypanosyllis</i> sp	Annelida	4.0					
Tubulanidae	Nemertea						0.1
<i>Tubulanus cingulatus</i>	Nemertea						0.1
<i>Tubulanus polymorphus</i>	Nemertea	0.7	1.7			0.2	0.3
<i>Tubulanus</i> sp A	Nemertea		0.2				0.2
<i>Turbanilla</i> sp A	Mollusca	1.5	0.2				
<i>Turbanilla</i> sp SD1	Mollusca		0.2	0.7			0.2
<i>Turbanilla</i> sp SD2	Mollusca			0.2			0.2
<i>Turbanilla</i> sp SD5	Mollusca						0.2
<i>Turbanilla</i> sp SD6	Mollusca		0.2				
<i>Turbanilla</i> sp SD7	Mollusca						0.1
<i>Typhlotanais williamsi</i>	Arthropoda					1.3	
<i>Typosyllis farallonensis</i>	Annelida	0.8					
<i>Typosyllis heterochaeta</i>	Annelida			0.2		0.7	0.1
<i>Typosyllis</i> sp SD1	Annelida			0.8			
<i>Typosyllis</i> sp SD2	Annelida	1.0		1.7			
<i>Urothoe elegans</i> complex	Arthropoda					3.3	
Venerinae	Mollusca		0.2				
<i>Virgularia agassizii</i>	Cnidaria					0.2	
<i>Virgularia</i> sp	Cnidaria						0.2
Virgulariidae	Cnidaria						0.1
<i>Vitreolina yod</i>	Mollusca	1.0					
<i>Volvulella californica</i>	Mollusca						0.1
<i>Volvulella cylindrica</i>	Mollusca			1.0			
<i>Volvulella panamica</i>	Mollusca						0.7
<i>Westwoodilla tone</i>	Arthropoda			0.3		1.3	0.3
<i>Xenoleberis californica</i>	Arthropoda					0.3	
<i>Yoldia cooperii</i>	Mollusca	0.2					
<i>Yoldiella nana</i>	Mollusca				1.8		
<i>Zaolutes actius</i>	Cnidaria	18.5					
<i>Zygeupolia rubens</i>	Nemertea					0.8	0.2

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